



SEQUENCE LISTING

<110> WANG, Bryan S.  
PABO, Carl O.

<120> DIMERIZING PEPTIDES

<130> 8325-1004 / M4-US1

<140> 09/636,243

<141> 2000-08-10

<150> 60/148,422

<151> 1999-08-11

<160> 83

<170> PatentIn Ver. 2.0

<210> 1

<211> 18

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: exemplary  
motif characterizing C2H2 class proteins

<220>

<221> REPEAT

<222> (2)

<223> where 2-4 Xaa's are present

<220>

<221> REPEAT

<222> (17)

<223> where 3-5 Xaa's are present

<220>

<221> SITE

<222> (2)

<223> where Xaa is any amino acid

<220>

<221> SITE

<222> (4)..(15)

<223> where Xaa is any amino acid

<220>

<221> SITE

<222> (17)

<223> where Xaa is any amino acid

<400> 1

Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa His  
1 5 10 15

Xaa His

<210> 2  
<211> 4  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: D-able  
subsite

<400> 2  
Asn Asn Gly Lys  
1

<210> 3  
<211> 9  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: zinc finger  
protein bind sequence

<400> 3  
ggcgtagac

9

<210> 4  
<211> 9  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: zinc finger  
protein bind sequence

<400> 4  
ggcgacgta

9

<210> 5  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide  
linker

<400> 5  
Thr Gly Glu Lys Pro  
1 5

<210> 6  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: linker

<400> 6  
Gly Gly Gly Gly Ser  
1 5

<210> 7  
<211> 8  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: linker

<400> 7  
Gly Gly Arg Arg Gly Gly Gly Ser  
1 5

<210> 8  
<211> 9  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: linker

<400> 8  
Leu Arg Gln Arg Asp Gly Glu Arg Pro  
1 5

<210> 9  
<211> 12  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: linker

<400> 9  
Leu Arg Gln Lys Asp Gly Gly Gly Ser Glu Arg Pro

1                      5                      10  
  
 <210> 10  
 <211> 16  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: linker  
  
 <400> 10  
 Leu Arg Gln Lys Asp Gly Gly Gly Ser Gly Gly Gly Ser Glu Arg Pro  
       1                      5                      10                      15  
  
  
 <210> 11  
 <211> 18  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: component  
       finger of zinc finger protein  
  
 <220>  
 <221> REPEAT  
 <222> (2)  
 <223> where 2-4 Xaa's are present  
  
 <220>  
 <221> REPEAT  
 <222> (17)  
 <223> where 3-5 Xaa's are present  
  
 <220>  
 <221> SITE  
 <222> (2)  
 <223> where Xaa is any amino acid  
  
 <220>  
 <221> SITE  
 <222> (4)..(15)  
 <223> where Xaa is any amino acid  
  
 <220>  
 <221> SITE  
 <222> (17)  
 <223> where Xaa is any amino acid  
  
 <400> 11  
 Cys Xaa Cys Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa His  
       1                      5                      10                      15

Xaa His

<210> 12  
<211> 30  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA binding  
domain F1

<400> 12  
Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser Asp  
1 5 10 15  
Glu Leu Thr Arg His Ile Arg Ile His Thr Gly Gln Lys Pro  
20 25 30

<210> 13  
<211> 28  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA binding  
domain F2

<400> 13  
Phe Gln Cys Arg Ile Cys Met Arg Asn Phe Ser Arg Ser Asp His Leu  
1 5 10 15  
Thr Thr His Ile Arg Thr His Thr Gly Glu Lys Pro  
20 25

<210> 14  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: DNA binding  
site

<400> 14  
ggttgcagtg ggcgcgccca cagtacttga acgtaacg 38

<210> 15  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA binding  
 site

<400> 15  
 cgttacgttc aagtactgtg ggcgcgccca ctgc 34

<210> 16  
 <211> 12  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA binding  
 site

<400> 16  
 tgggcgtatg ct 12

<210> 17  
 <211> 12  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA binding  
 site

<400> 17  
 agcatacgcc ca 12

<210> 18  
 <211> 57  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA binding  
 site

<400> 18  
 ggaattcctg atcaagatct ggtcacgtcc ataggctagg catgtcaagg ctgtatg 57

<210> 19  
 <211> 57  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: DNA binding  
 site

<400> 19  
 gggatccact cggaacgcg tcctttagt gggcgcgccc acatacagcc ttgacat 57

<210> 20  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: inverted  
repeat site

<400> 20  
tggg'gcgccc ca

12

<210> 21  
<211> 14  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:  
self-complementary oligonucleotide

<400> 21  
atggg'gcgcg ccat

14

<210> 22  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide  
extension

<220>  
<221> SITE  
<222> (1)  
<223> "His" is numbered 89

<220>  
<221> SITE  
<222> (15)  
<223> "Arg" is numbered 103

<400> 22  
His Pro Met Asn Asn Leu Leu Asn Tyr Val Val Pro Lys Met Arg  
1 5 10 15

<210> 23  
<211> 34  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: DNA site used  
for affinity selection

<400> 23  
gcagtgggcg cgccacagt acttgaacgt aacg

34

<210> 24  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide 1

<400> 24  
Gly Gly Gly Gln Trp Leu Gly Thr Trp Glu Trp Tyr Gly Pro Lys  
1 5 10 15

<210> 25  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide 2

<400> 25  
Tyr Glu Lys Ile Ser Val Glu Gly Ile Lys Asp Val Arg Val Arg  
1 5 10 15

<210> 26  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide 3

<400> 26  
Asn Val Ser Ile Glu Gly Val Leu Lys Tyr Tyr Arg Gly Leu Arg  
1 5 10 15

<210> 27  
<211> 15  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: peptide 4

<400> 27



Arg Ser Cys Gly Leu Asp Tyr Glu Gly Tyr Trp Leu Lys Leu Lys  
 1 5 10 15

<210> 28  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: peptide 5

<400> 28  
 Ser Arg Trp Leu Glu Glu Val Ser Arg Leu Leu Leu Leu Arg  
 1 5 10 15

<210> 29  
 <211> 15  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: peptide 6

<400> 29  
 Gly Glu Ala Leu Asp Arg Phe Glu Arg Glu Met Lys Leu Met Arg  
 1 5 10 15

<210> 30  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 30  
 Gly Gly Gly Gln Trp  
 1 5

<210> 31  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 31

His Pro Met Asn Asn  
1 5

<210> 32  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 32  
Pro Pro Ser Thr Glu  
1 5

<210> 33  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 33  
Gln Lys Tyr Gly Asp  
1 5

<210> 34  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 34  
Glu Asn Tyr Glu Lys  
1 5

<210> 35  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 35  
 Leu Gly Thr Trp Glu  
 1 5

<210> 36  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 36  
 Leu Leu Asn Tyr Lys  
 1 5

<210> 37  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 37  
 Leu Leu Asn Tyr Val  
 1 5

<210> 38  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 38  
 Leu Leu Asp Tyr Ile  
 1 5

<210> 39  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential

block reoptimization sequence

<400> 39

Leu Leu Asn Tyr Ile

1 5

<210> 40

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 40

Leu Leu Gln Tyr Val

1 5

<210> 41

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 41

Leu Leu Glu Tyr Lys

1 5

<210> 42

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 42

Leu Leu Asp Tyr Val

1 5

<210> 43

<211> 5

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 43  
Leu Leu Asn Tyr Val  
1 5

<210> 44  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 44  
Trp Tyr Gly Pro Lys  
1 5

<210> 45  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 45  
His Pro Lys Met Lys  
1 5

<210> 46  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 46  
Pro Ala Lys Ile Arg  
1 5

<210> 47  
<211> 5  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 47

Val Pro Lys Ser Arg  
1 5

<210> 48

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 48

Val Pro Arg Leu Lys  
1 5

<210> 49

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 49

Ala Pro Lys Leu Arg  
1 5

<210> 50

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 50

His Ala Lys Ile Arg  
1 5

<210> 51

```

<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 51
Val Val Lys Met Arg
  1                      5

<210> 52
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 52
Pro Val Lys Met Arg
  1                      5

<210> 53
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 53
Val Pro Lys Gln Arg
  1                      5

<210> 54
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 54
Val Pro Lys Met Arg
  1                      5

```

```

<210> 55
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 55
Val Arg Lys Leu Arg
  1               5

<210> 56
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 56
Ser Arg Trp Leu Glu
  1               5

<210> 57
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 57
Phe Arg Trp Leu Glu
  1               5

<210> 58
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: sequential
      block reoptimization sequence

<400> 58
Gln Pro Trp Leu Thr
  1               5

```



<210> 59  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence  
  
 <400> 59  
 Pro Pro Trp Leu Ile  
 1 5  
  
 <210> 60  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence  
  
 <400> 60  
 Pro Pro Trp Leu Lys  
 1 5  
  
 <210> 61  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence  
  
 <400> 61  
 Pro Ala Trp Leu Thr  
 1 5  
  
 <210> 62  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence  
  
 <400> 62  
 Pro Ala Trp Leu Ala

1

5

<210> 63

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 63

Trp Ala Trp Leu Asp

1

5

<210> 64

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 64

Pro Thr Trp Leu Thr

1

5

<210> 65

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 65

Glu Glu Val Ser Arg

1

5

<210> 66

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 66  
 Glu Tyr Leu Glu Ser  
 1 5

<210> 67  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 67  
 Asp Tyr Val Thr Gln  
 1 5

<210> 68  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 68  
 Asp Tyr Leu Ala Asp  
 1 5

<210> 69  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
 block reoptimization sequence

<400> 69  
 Glu Tyr Leu Thr Phe  
 1 5

<210> 70  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential

block reoptimization sequence

<400> 70  
 Gln Tyr Leu Glu Asp  
   1                  5

<210> 71  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
       block reoptimization sequence

<400> 71  
 Asp Tyr Val Ser Gln  
   1                  5

<210> 72  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
       block reoptimization sequence

<400> 72  
 Ser Tyr Leu Asp Lys  
   1                  5

<210> 73  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: sequential  
       block reoptimization sequence

<400> 73  
 Glu Tyr Met Ser Asp  
   1                  5

<210> 74  
 <211> 5  
 <212> PRT  
 <213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 74  
Leu Leu Leu Leu Arg  
1 5

<210> 75  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 75  
Met Arg Leu Trp Arg  
1 5

<210> 76  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 76  
Met Arg Gly Trp Lys  
1 5

<210> 77  
<211> 5  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 77  
Met Arg Lys Trp Arg  
1 5

<210> 78  
<211> 5  
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 78

Met Arg Lys Trp Lys  
1 5

<210> 79

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: sequential  
block reoptimization sequence

<400> 79

Met Gly Val Met Arg  
1 5

<210> 80

<211> 27

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: ZIF1

<400> 80

Pro Tyr Ala Cys Pro Val Glu Ser Cys Asp Arg Arg Phe Ser Arg Ser  
1 5 10 15

Asp Glu Leu Thr Arg His Ile Arg Ile His Thr  
20 25

<210> 81

<211> 28

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: GLI1

<400> 81

Glu Thr Asp Cys Arg Trp Asp Gly Cys Ser Gln Glu Phe Asp Ser Gln  
1 5 10 15

Glu Gln Leu Val His His Ile Asn Ser Glu His Ile

<210> 82  
 <211> 30  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: GLI2

<400> 82  
 Glu Phe Val Cys His Trp Gly Gly Cys Ser Arg Glu Leu Arg Pro Phe  
 1 5 10 15

Lys Ala Gln Tyr Met Leu Val Val His Met Arg Arg His Thr  
 20 25 30

<210> 83  
 <211> 27  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: SWI5

<400> 83  
 Thr Phe Glu Cys Leu Phe Pro Gly Cys Thr Lys Thr Phe Lys Arg Arg  
 1 5 10 15

Tyr Asn Ile Arg Ser His Ile Gln Thr His Leu  
 20 25